

A large white wind turbine stands prominently in the center of the image against a clear blue sky. The turbine's three blades are spread out, and its tower is visible. In the foreground, several camels are grazing on dry, yellowish-brown grass. The background shows a vast, flat landscape with more wind turbines visible in the distance under a bright blue sky with a few wispy clouds.

# Wind Development in Xinjiang, China

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# *I BRIEF INTRODUCTION OF WIND POWER DEVELOPMENT IN XINJIANG, CHINA*

- Imported Danish 100kW grid-connected and 55kW stand-alone wind turbines in 1985.
- Imported 13\*150kW grid-connected wind turbines in 1989 and constructed the largest wind power plant in China.
- Continuously imported 300-600kW wind turbines from Denmark, Germany and Netherlands since 1992.

- Up to now there are three wind farms in Xinjiang, namely Dabancheng No. 1 and No. 2 and Buerjin wind power plants with total installed capacity around 70MW.
- Manufactured 600kW wind turbines in accordance with China “Ninth-Five” Scientific and Technical Research Program from 1997-1999. By the end of 1999, nine local produced machines have been put into operation in Dabancheng No. 1 plant.

## II BRIEF INTRODUCTION OF LOCAL PRODUCED 600KW WIND TURBINES

### 1. Technical Specification of *XWEC - JACOBS* 43/600 Wind Turbine

Power regulation	:stall-controlled
Blade numbers	:three blades
Cut-in wind speed	:3m/s
Cut-out wind speed	:25m/s
Rated wind speed	:15m/s
Survival wind speed	:58m/s
Rotor RPM	:17.9/26.8RPM
Generator RPM	:1000/1500 <sub>0</sub> RPM
Operating temperature	: -20 -- 40 °C
Gear ratio	:1: 56





## 2、Local Production Schedule

- 2 sets of 600kW turbines with local content of 33% put into operation on June 15, 1998.
- 3 sets with local content of 53% put into operation at the later half of 1998.
- 2 sets with local content of 72% and 1 set with local content of 78% put into operation in June and July 1999.
- 1 set with local content of 72% put into operation in November.

33.4%

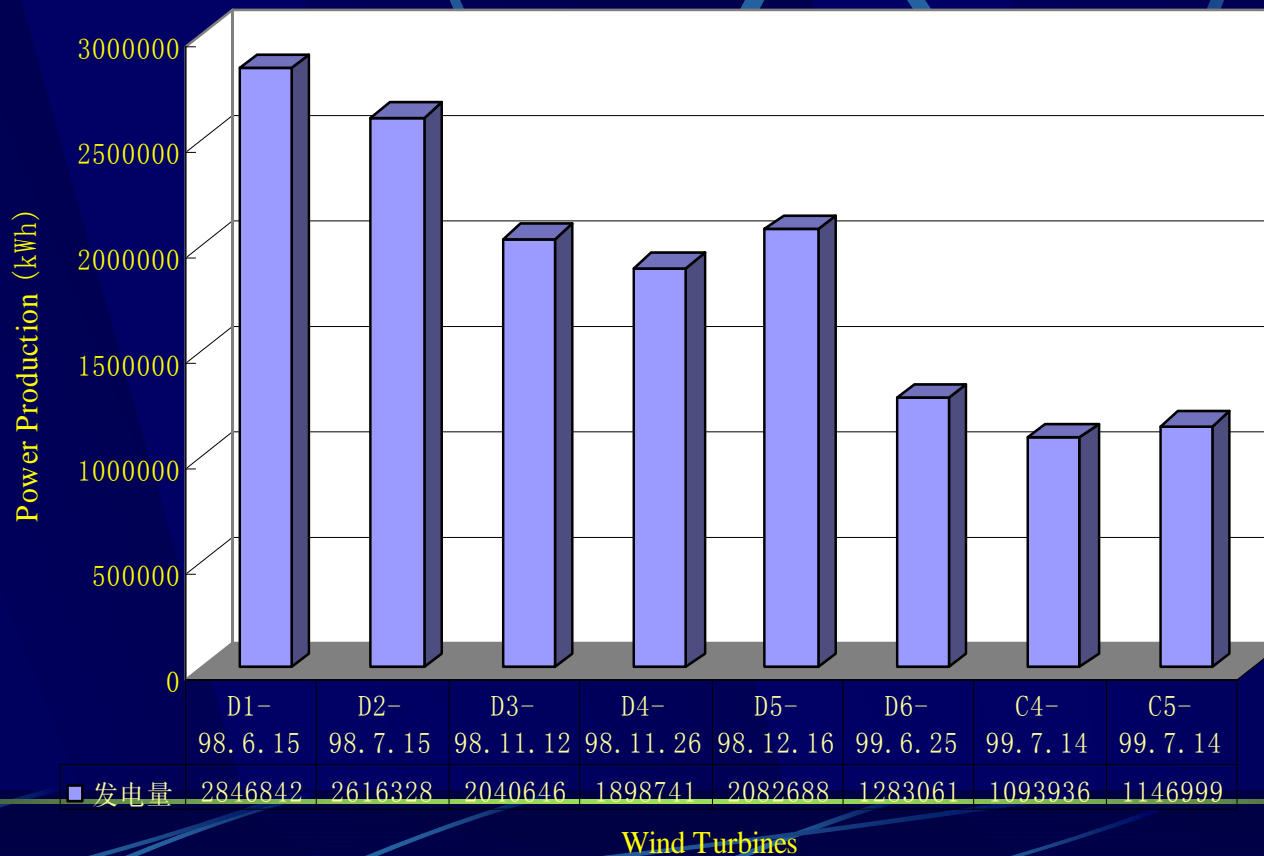
36.5%



### 3、Operating Data

- Power Production of Nine Local Produced XWEC-JACOBS 43/600 Wind Turbines (1999/1—2000/2 )

Accumulative Power Production

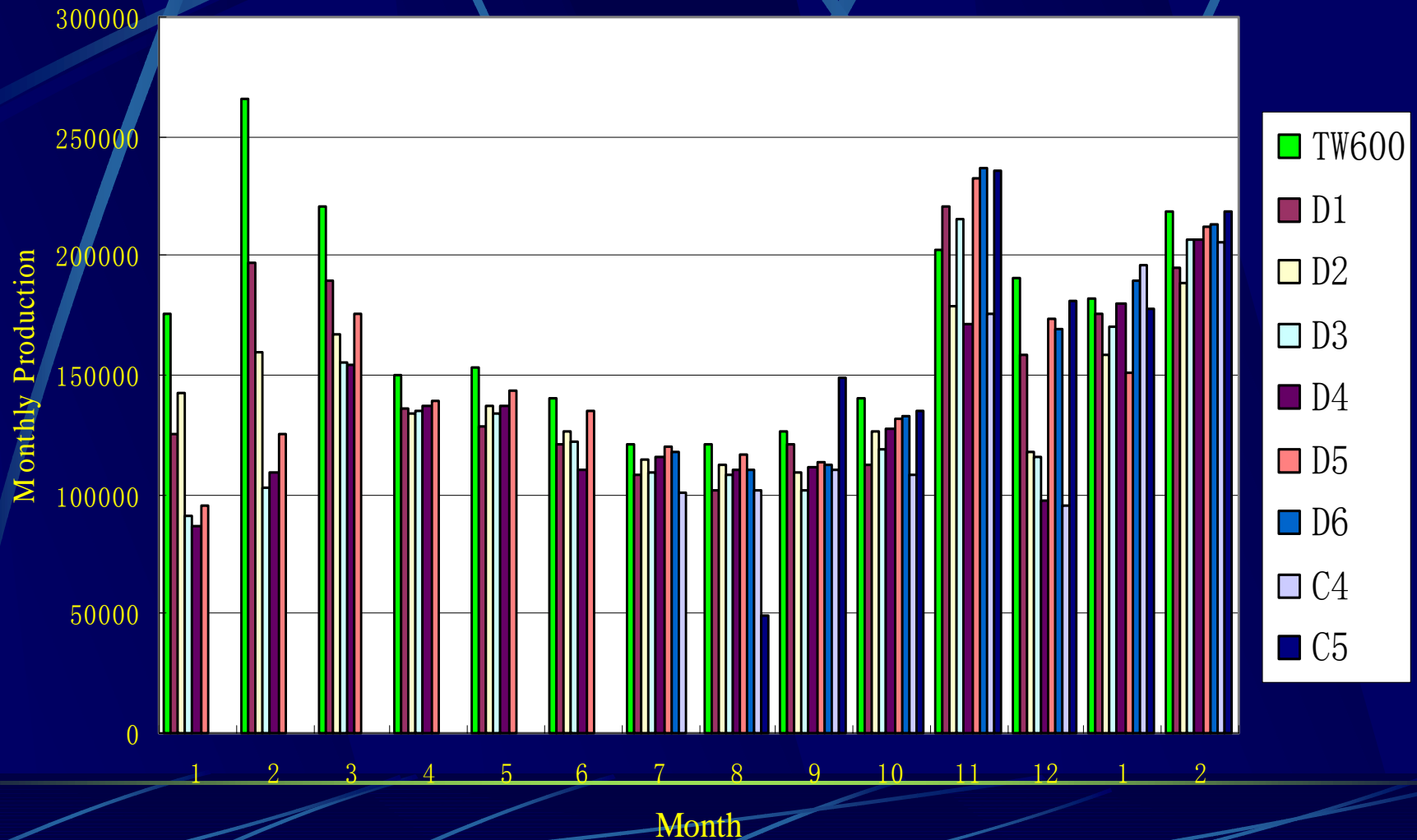


1999.1 - 2000 3



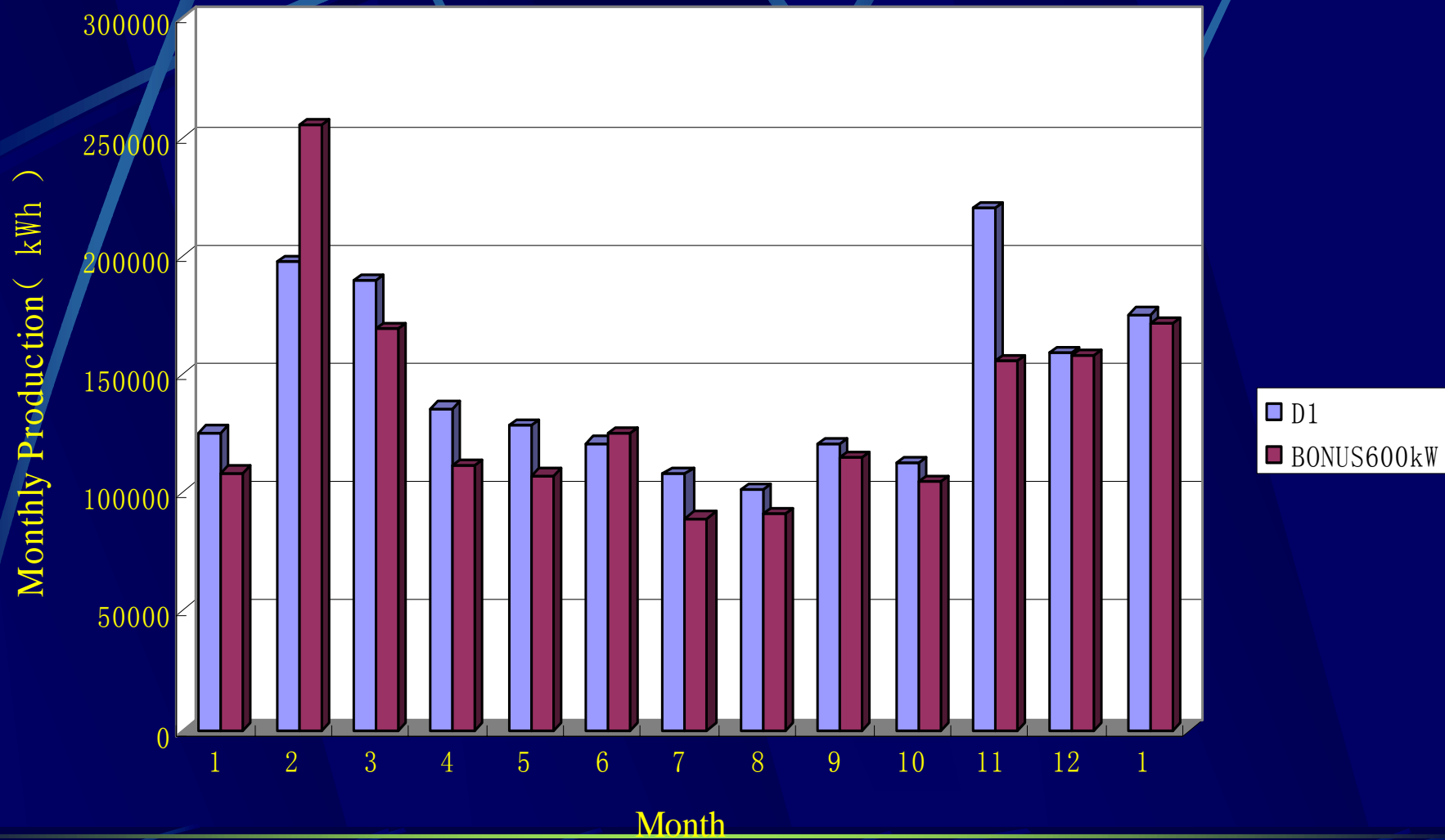
# Operating Comparison with TACKE and BONUS Turbines

## Monthly Power Production Compared with Tacke Turbines





Monthly Production Compared with BONUS 600kW Turbine



# *III INTRODUCTION OF WIND PROJECT WITH TENG ENERGY GROUP IN THE UNITED STATES*



# *Sino-American Joint Venture Wind Project*

- Total investment is RMB 191 million and the planned wind capacity is 22.8MW.
- The registered capital takes 40% of the total investment, namely RMB 76 million.
- The investment of Xinjiang Wind Energy Co. takes 30% of the registered capital, namely RMB 22.8 million and will be contributed as intangible assets such as know-how and two operated XWEC-JACOBS 43/600 wind turbines.
- The investment of Teng Energy Group takes 70% of the registered capital, namely RMB 53.2 million and will be contribution in cash.
- 60% of the total investment will be financed in China.

- Electricity price promised by Xinjiang Price Bureau is RMB 0.638/kwh
- Xinjiang Electric Power Bureau has approved that the wind capacity of Xinjiang Wind Energy Co. could be 40MW by the end of “Ninth-Five” period.
- Xinjiang Planning Commission has listed the project into 2000 program.
- IRR of the project is 14.7%.
- The Return period of the investment is 7-8 years.

## *Project Management*

- The joint-venture company – Tengfeng Electric Power Limited Co. – will be a management company.
- The local produced wind turbines – XWEC-JACOBS 43/600 – will be chosen.
- Xinjiang Wind Energy Co. will be responsible for project construction.
- Urumqi Jieneng Wind Power Technical Service Co. will be responsible for operation and maintenance of the power plant.